INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI)

Introductory Course on Participatory Epidemiology

Serowe, Central District, Botswana

19-24 November, 2012

Australian Government

Australian Centre for International Agricultural Research

RESEARCH PROGRAM ON Policies, Institutions and Markets

This training course report is an output of the project entitled “Competitiveness of Smallholder Livestock” in Botswana.

Contents

List of Acronyms

BNVL	Botswana National Veterinary Laboratory
CCPP	Contagious Caprine Pleuropneumonia
CBPP	Contagious Bovine Pleuropneumonia
CDC	Centre for Disease Control
DAR	Department of Agricultural Research
DVS	Department of Veterinary Services
FMD	Foot and Mouth Disease
HPAI	Highly Pathogenic Avian Influenza
ILRI	International Livestock Research Institute
LAC	Livestock Advisory Centre
LSD	Lumpy Skin Disease
PDS	Participatory Disease Surveillance
PE	Participatory Epidemiology
PPR	Peste des Petits Ruminants
PRA	Participatory Rural Appraisal
RVF	Rift Valley Fever
SSI	Semi-structured Interview

Introduction

Dr Podisi welcomed the participants on behalf of the Ministry of Agriculture and briefly explained the importance of the project to the livestock sector in Botswana where the focus has been on production and mainly on beef cattle while the current Australian Council for International Agricultural Research (ACIAR) funded project entitled "Competitiveness of Smallholder Livestock" looks at areas that were ignored before: smallholders and includes small ruminants.
After that Dr Ditsele, Principal Veterinary officer from the Central District welcomed the participants to the district on behalf of the District Agricultural Coordinator.
The participants introduced themselves. There were a total of 20 participants from the Central District, Chobe and South East Districts.

Dr Sirak Bahta from the International Livestock Research Institute (ILRI) based in Gaborone gave a presentation on the 3-year project. The two main research questions to be answered are:

- Who is the smallholder livestock producer, and what factors constrain his/her livelihood?
- How can livestock-related marketing systems be improved for the benefit of smallholders and the rural population?

Partners in the project are: ACIAR, Botswana Ministry of Agriculture (MoA) and ILRI. Within Botswana the following departments:

- BIDPA- Botswana Institute for Development Policy Analysis
- Department of Agricultural Research (DAR)
- Department of Veterinary Sciences (DVS)
- BCA-Botswana College of Agriculture
- Department of Agribusiness Promotion
- Department of Agricultural Statistics

After the presentation, Dr Saskia Hendrickx from ILRI (Mozambique) who was the main resource person tasked with exposing the participants to participatory (PE) tools asked the participants to look at the course objectives as well as the agenda. There were no comments on the objectives but it was suggested that the meeting should start at 08.00 instead of 08.30. It was also suggested to have the field visits in the morning and not in the afternoon as suggested earlier. See Annex 1 for the final agenda and Annex 2 for the participants list.

Expectations & Fears
All participants were asked to write down up to 3 expectations and 3 fears for this workshop.

- **Expectations:** What do you want to gain from this training?
- **Fears:** What are your fears concerning this training?

The different expectations and fears were said out loud, or written on a card and stuck to the wall. See Annex 3 for participants' responses.
A code of conduct for the workshop was agreed upon:

- Be on time
- Mobile phones should be on silent
- Respect for each other's opinion

Previous training and experience

Participants were asked to fill in a questionnaire to provide information on their previous training and experience in epidemiology, surveillance and participatory approaches. See Annex 4 for the results of the questionnaire.

Disease Surveillance

Part I

The session started with group work, in which all groups were asked to comment on some pictures showing different types of animal husbandry keeping practices common in Botswana.

The groups had up to 30 minutes to address the following questions for each picture:

1. Describe the farm and its typical practices (feeding, vaccination, biosecurity etc.)
2. Is there only one species present on the farm or various? Please explain. What could be the consequences of this practice?
3. Who are the persons that you would like to talk to in order to understand the practices on each farm? (=key informants)

The groups then shared their comments with the rest and there was further discussion.

Pictures 1 & 2:

Question 1 → some key words: Commercial farm -Same age group of animals – well organized – biosecurity very good to enter the farm and the different houses – vaccination seems easy to perform.

Question 2 → one species only: chickens

Question 3 → owner of the farm as well as the workers and potentially also the district veterinarian.

Picture 3 & 4:

Question 1 → cattle post, no biosecurity all animals can mix. Vaccination for notifiable diseases carried out by vet services.

Question 2 → a lot of different species: cattle, small stock, donkeys, chickens…

Question 3 → owner lives most likely in Gaborone, key informants will be the manager and the herds boy.

Picture 5:

Question 1 → Mixed free range poultry. Probably given supplement, vaccination will be difficult to carry out and it's doubtful if this will happen. The biosecurity level is very minimal, not clear if they are housed.

Question 2 → different poultry species, probably also some cats and dogs. And wildlife that may eat the livestock.

Question 3 → Key informant would be the owner which is often the housewife. She's sometimes assisted by the children, these should be consulted too.

Part II

Introduction of epidemiology & surveillance

A brief outline was given and subsequently the participants were asked different questions in relation to thetwo concepts:

EPIDEMIOLOGY: What is it? Are people familiar with it?
Definition: The study of the patterns of diseases in populations.

SURVEILLANCE: What is it? Are people familiar with it?
Some concepts: Continuous disease monitoring – notifiable diseases
Definition:

- Systematic on-going collection, collation, analysis and timely dissemination of information to those who need to know so that action can be taken (WHO).
- Information for action. (USA Centre for Disease Control - CDC)

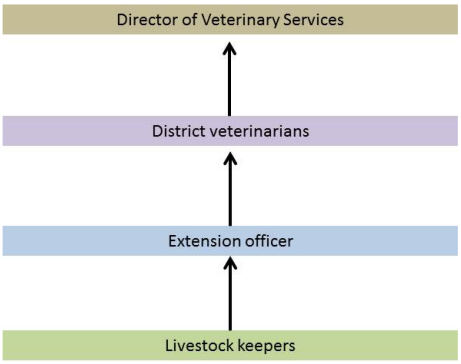
What is the objective of disease surveillance?
To provide the necessary information for decision making, execute activities and evaluate the results of the actions aimed to improve the health situation of the population.

What Are the Characteristics of Effective Surveillance[1]?

- High detection rate
- Sensitive & Specific
- Representative
- Timely
- Flexible
- Simple
- Ownership

The different characteristics of a surveillance system were discussed and examples given. For timeliness, the participants explained the reporting system for animal disease events in Botswana. Reporting from the farmer to the central level can take place in a few hours thanks to the use of mobile phones. In case of a suspected FMD outbreak a team from the central level should be in the field in less than 24 hours.

[1] Thacker SB, Parrish RG and Trowbridge FL. 1988. A method for evaluating of epidemiological surveillance. *World Health Statistics Quarterly* 41:11-18.



Components of a surveillance system:
Passive ("scanning") surveillance: which captures information from existing data sources.
Active ("targeted") surveillance, which is a specific exercise or set of exercises to search for a specific disease or infection in a population or provide evidence of absence of a disease or infection.
Epidemiological studies to develop a deeper understanding of the manifestation of a disease in a population.

A surveillance system is a collection of activities that compliment each other.
Some parts are for sensitivity – case finding, disease reporting
Some parts are for specificity – laboratory confirmation

The following picture was shown as an analogy with the animal disease surveillance – only a small part of the animal diseases that occur are being reported (what we see – the head of the hippo).

Introduction to Participatory Epidemiology

Q. What do you understand by participation?
Answers from the participants: to be part of it, involvement, cooperation, contribution, to join, interaction, sharing, doing together, to be concerned with the issue.

Participation is the empowerment of people to find solutions to their own development challenges. It is both an attitude and a philosophy that encourages learning, discovery and flexibility

Q. What experiences do you have of participatory projects – as a facilitator or as a beneficiary?
Nobody had been involved in any participatory projects.

Types of participation (see handout: A Typology of Participation)

- Passive
- Information-giving
- Consultation
- Material incentives
- Functional
- Interactive
- Self-mobilisation

There are different levels of participation and the highest level of self-mobilisation is hard to achieve. In PE, the level of participation may range from information-giving, where it focuses on data collection, to interactive, where the focus is on external agents and communities working together to identify problems, solutions and action plans.

PE is the use of participatory approaches and methods to improve our understanding of the patterns of diseases in populations. It is based on conventional epidemiological concepts and allows for the investigation of interactions between host, agent and environment but in a social context of disease transmission. It based on what is called "existing veterinary knowledge".

Participatory epidemiology is a relatively new branch of epidemiology which is still developing. The approach is based on qualitative inquiry and complements the qualitative nature of standard veterinary investigation procedures. According to the needs of a given community or organization, participatory epidemiology can also combine the benefits of participatory approaches and methods with quantitative inquiry (analysis of the collected data). These approaches and tools used are derived from participatory appraisal (PA) such as Rapid Rural Appraisal and Participatory Rural Appraisal PRA).

Key principles of participatory appraisal

- Behavior and attitude – listen, learn and respect, be a facilitator not an expert, be prepared to unlearn
- People accumulate a body of knowledge on subjects that are important to their livelihood.
- Certain individuals have a unique and very valuable perspective on a situation.
- Co-learning: sharing of knowledge, experience and analysis; combining local and professional knowledge for effective acceptable action
- People think and behave rationally based on the information available to them. If it appears that people are not behaving rationally then we have probably failed to understand some key factor in the situation.
- Action-oriented rather than data driven

PE methods

Participatory epidemiology is based on communication and transfer of knowledge, using a variety of tools. These tools have been selected from a broader set of tools used in PRA and have been field tested for use with PE. Other tools may also be helpful but are beyond the scope of this course.

The different PE tools that will be covered in this course can be categorized as follows:

- **Informal interviewing:** Semi-structured interviews, with key informants, focus-group discussions
- **Ranking and scoring tools:** Simple ranking, pair-wise ranking, proportional piling, matrix scoring
- **Visualization tools:** Mapping, Venn diagrams, seasonal calendars, timelines and transect walks

They are complemented by:

- Secondary information sources – to be obtained before you go to your study area.
- Laboratory diagnostics – often rapid antigen tests are used in the field; if needed samples are taken and tested by a regional or national laboratory for confirmation.
- Geographical positioning System (GPS) unit – coordinates can be collected in the field to be used for disease modeling and reporting.
- Direct observation: clinical and post-mortem exams.

Data is cross-checked through:

- Probing (asking more about something to find out more)
- Triangulation (during the interview or in between interviews by applying different PE tools in the same village)

Concept of bias and its types

Bias is a systematic deviation of results or inferences from the truth or any tendency in the collection, analysis, interpretation, publication, or review of data that can lead to conclusions that are systematically different from the truth. In epidemiology, this does not imply intentional deviation. Understanding bias is a key requirement of an effective PE practitioner.

Randomization of informants is difficult during PE and can make selection bias (systematic selection of certain types of informants that do not represent the overall study population) an important problem. It is critical that the investigator understands this from beginning so they are able to probe for information and understand the motivators driving key informants to respond the way they do. See below the different types of bias:

Table 1: Common types of bias in PE

Spatial bias:	The selection of a study area based on convenience and access. Investigators often travel on better roads and the farmers they are able to reach are determined by proximity of roads and villages which leaves the farmers in more remote areas (who are often the poorest) unrepresented in the study.
Project bias:	The selection of a study area based on the presence of livestock improvement projects because of the increased level of activities related to livestock. Visitors and researchers are often channeled to areas where projects have been active and most of the work will then concentrate on these places.

Person bias:	The views of certain types of people (influential, rich, vocal, etc) are overrepresented in the interviewing process. Influential persons interviewed (particularly as key informants) may be biased against poor people, or ignorant of their needs. The "rural elite," while not at all representative of the cross-section of farmers, are often the most vociferous at group interviews and can give the wrong impression. Thus, it is essential to include the rural poor as key informants and insure they are interviewed in sittings where they feel comfortable enough to express their views.
Seasonal bias:	Data collection conducted during one part of the year may not represent morbidity or mortality during other parts of the year. Malnutrition, morbidity and mortality all tend to be highest at the end of the dry season; surveys carried out at other times of the year will miss these phenomena. Seasonal calendars, one of the PE tools covered in this course, are meant to minimize this problem.
Diplomatic bias:	Informants may try to hide problems if they have a negative social stigma. For many communities, poverty is the subject of shame, and the needs of the poorest are sometimes glossed over or even concealed either by the poor themselves or by officials working with them.
Professional bias:	Animal health professionals may introduce bias associated with their training which prevents them from really understanding what the informants are trying to tell them. In epidemiological work, professional bias can cause problems at the technical level that prevent study teams from correctly understanding the traditional knowledge base.

Understanding how bias may affect the information gathered during fieldwork can decrease the likelihood that it will affect the overall conclusions drawn by the investigator. Selection of a variety of key informants, as well as cross checking of data through probing, triangulation, looking for conflicts of interests, and weighing the evidence, will help prevent a systematic deviation from the truth that will affect the conclusions of the PE study. PE tools are designed to reduce bias and will be discussed further during this course.

Application of participatory epidemiology

PE may range from data collection (participation by information-giving or consultation) or may be closer to interactive participation where information is analyzed with the community and a joint action plan is developed.

PE has a number of applications including:

- Needs Assessments
- Participatory Epidemiology Research
  - Basic Epidemiology studies
  - Disease modeling
  - Risk assessment
- Participatory Disease Surveillance
  - Case finding

    - Demonstrating disease freedom (e.g. Rinderpest eradication in East Africa)
- Impact Assessment
    - Evaluation of disease control interventions
- Strategy and Policy Reform

Existing Veterinary Knowledge

Q: what do you understand by traditional knowledge?

- Based on experience
- Disease information
- Acts or practices passed down from generation to generation, for a purpose
- Within a community

Q: what others types of knowledge do farmers have?

- Training sessions from extension officers
- Own experiences
- TV, radio

Together these can be termed **existing veterinary knowledge.**

Group work: think of three or more traditional livestock practices. Write each on a separate card. Groups read out their cards and then there was discussion on which practices are beneficial and which ones might be harmful.

Table 2. Common animal husbandry practices in Botswana

Beneficial	**Beneficial/harmful (OR participants didn't agree =*)**	**Harmful**
Dusting animals with ash as treatment for external parasites	Cutting of ears to reduce blood as treatment for Pasteurellosis*	
Soaking hooves in salty water as treatment against footrot	Injecting animals with antiseptics (Savlon/Dettol) and methylated spirit and drenching with traditional beer as a treatment for LSD*	Using traditional herbs/washing powder to get afterbirth out
Treating calf paratyphoid with roots of certain plant	Using Potassium Permagnate (Potash) as a broad spectrum AB	Using cow dung as a topical lotion after deworming
Applying sugar for eye infection	Use of aloe vera for drinking water as a treatment for NewCastle (Mokgwapha)	Cuttings of bursa of fabricius with a knife then putting salt/snuff in it as a treatment for Gumboro
	Traditional fixing of broken leg (Thobega)*	Use of powder from cellphone batteries
	Eradicating QE by getting small pieces of all QE dead animals, putting QE segweri and burying it upside down*	Dipping with petrol
	Killing maggots in a wound with petrol	
	Applying hot iron around the eye as treatment for conjunctivitis	

Table 3. Local names for main cattle diseases in Botswana

Local Name in Setswana	Literal Translation	Presumptive diagnosis
Tlhako le Molomo	Tlhako = foot le = and Molomo = mouth	FMD
Kwatsi	Danger	Anthrax
Serotswana	Affecting thigh muscles	Quarter Evil (Black quarter)
Sebete	Affecting liver	Calf parathyphoid
Madi	Blood – Clotted blackish blood	Pasteurellosis
Nkokomane	Lumps on skin	Lumpy Skin disease
Mokokomalo	Recumbent - Weakness/ataxic	Botulism
Magetla	Shoulder (legekla) weakness	Aphosphorosis
Molafo	Excessive salivation	Rabies
Pholotso	Abortion	Contagious Abortion
Diphilo	Affecting kidneys	Pulpy kidney
Mokorobalo	Dullness	NCD
Leroborobo	High mortality	NCD
Lekgwafo	Lung disease	CBPP
Tlhakwana	Affecting hooves	Footrot
Kgotiholo e tona	Kgotlholo = cough	TB
Metsi-a-pelo	Metsi = water Pelo = heart	Heartwater
Slaap-siktee (in Africaans)	Transmitted to coitus (because of sleeping together)	Dourine

Case definitions

A clinical case definition

- Are various key signs used to identify a clinical case of the disease that you are interested in,
- Is based on what the farmer is likely to know and see and can tell you or show you,
- should be general enough to be able to pick up the majority of cases of the disease of interest,
- should assist in making decisions about what action to take next.

After the explanation the participants developed the clinical case definitions together as outlined in table 4.

Table 4. Clinical case definitions.

Anthrax	Sudden death Blood from natural openings No stiffening
Black Quarter	Sweat smell Crackling muscles Sudden death of healthy animals Muscles turn black ALSO consider: animals <2 years of age
Heart water	Staggering gait – moving in circles Peddling movements Chewing Bleating ALSO consider: presence of ticks

Semi structured interviews

- What is an interview? Conversation between two or more people.
- What is a structured interview? Interview using questionnaire to collect data.
- What is semi-structured interview? Interview using checklist to collect data.

Table 5. Differences between questionnaires and checklists

Questionnaire	Checklist
Using a list of questions to be followed when collecting data	Uses bullet points of topics to guide the facilitator in capturing the main points during the interview
Fixed questions - not changeable	Questions are not fixed, can vary depending on the situation
Not flexible in different situations	Flexible and suitable for all environments
Enumerators collect information	Facilitators collect information

A questionnaire is a conventional way of collecting data using fixed questions to be followed in a fixed order. A checklist is used in participatory assessment, whereby important points to be addressed are listed to remind the interviewer when gathering information from respondents.

What should the team consider before conducting a semi-structured interview?

- Context: when, where, timing, community culture and background, etc……
- Content: objective of visit, talk to key informant, obtain secondary data about area.

What should the team do during a semi-structured interview?

- Listen, observe, be patient, and open-minded.
- Avoid raising community expectations during the interview.
- Probe for in-depth information (a technique for data gathering and quality control).
- Use simple (local) language and make sure it is understood by all.
- Work as a team (note taker, observer/s, a person from the area and interviewer).
- Know how to deal with dominant talker (individual/ focus group discussion).
- Interview all types of people - men, women, youth.

Our attitude and behavior during PE/PDS field work

- Watch both the team and respondents' behavior and attitude.
- Body language - how we dress, eye contact and body movement, those can send good messages or wrong impression.
- Cultural background of a given community needs to be taken into account by the team.

What should the team do after semi-structured interview?

- Check on your notes and fill all missing points
- Review what went well and not so well after each interview and draw lessons for future improvement.
- Change the roles of team members to build confidence and interview skills to give a chance to every member to have field experience.
- Keep all the raw information in a safe place for future reference.

- Write a final report after gathering enough information to be representative of the community status.

Role play:

- Group 1: Sensitize community about neonatal diarrhea.
- Group 2: interview with village nurse about neonatal diarrhea.
- Group 3: establish proportion of men willing to do circumcision.
- Group 4: understanding of traceability methods (from bolus to ear tag).

PE tools

Simple ranking

Simple ranking is ordering a list of items based on defined criteria, e.g.

- livestock species by population
- livestock diseases based on importance or mortality or frequency of occurrence.

Ask the informants to rank a set of items according to a certain criteria, in order of highest to lowest. Ask (probing) why they chose to rank a particular item to be number one. By probing the order of ranking it will give a complete picture of relative importance based on the informants' understanding.

Proportional piling

Proportional piling is a technique that allows farmers to give relative scores to a number of different *categories* according to one *parameter*. The scoring is actually done by asking the farmers to divide 100 *counters* (for example beans) into different piles that represent the categories.

Make sure when you record the results of a ranking or scoring exercise in your report, you indicate what question you asked i.e. on what criteria are the items being ranked.

Group work:

- Group 1: Most commonly practiced sport in Botswana.
- Group 2: Most commonly mode of transport used by schoolchildren in Botswana.
- Group 3: Most commonly consumed alcoholic drink among adults in Botswana.
- Group 4: Most commonly occurring diseases in livestock in Botswana.

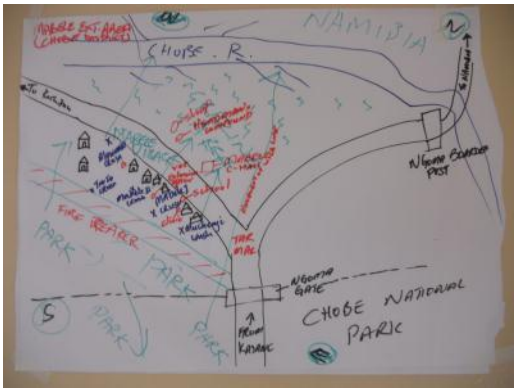
Tip

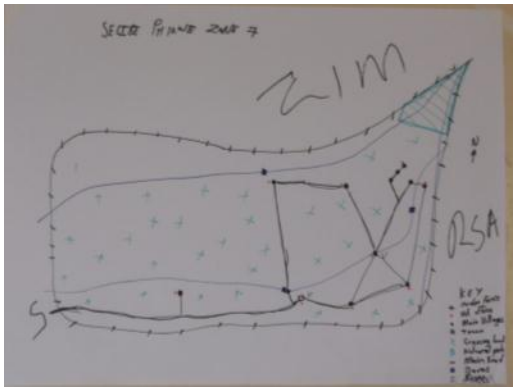
For all ranking and scoring tools, *make sure the question you ask the farmers is clear* i.e. based on what criteria are they ranking e.g. ranking of childhood diseases based on which is *most common* will be different from which diseases *kill most.*

Participatory Mapping

Question: If we are interested to map livestock resources what kinds of things could we map? Some answers: Veterinary extension office - markets – pasture - water sources - seasonal movements – farms- parks with wildlife.

Group work: The participants were divided in 4 groups and asked to draw a map of their district or area of work. Please see below the maps drawn by the different groups:





Maps should have a title, scale and key. Afterwards the maps were presented to all participants. When interviewing the maps, special attention was given to questions regarding potential high risk areas for certain diseases (e.g. possible interaction with wildlife and the occurrence of FMD in cattle).

Seasonal Calendar

Temporal variation in disease occurrence is a common aspect of epidemiological investigation. A seasonal calendar can be used to understand local perceptions of seasonal variation in disease incidence, population of ticks, biting flies or other factors.

Field visit nr 1

A village near to Serowe called Mogorosi was visited by all the teams. Teams of 4-5 participants interviewed around 10 farmers for almost 2 hours hour using the checklist developed below.

Objective of interview: what are the main diseases in cattle and small stock in this village?

Checklist

- Introduction
- Purpose of the visit: understand the health situation of the animals in the village

- Animal species kept
- Animal husbandry practices
- Challenges in livestock keeping
- Diseases (occurrence, morbidity, mortality, seasonality...)
- What do you do when disease occurs?
- Questions and answers / advice
- Thanks

Feedback of field visit
Tools used: Simple ranking, proportional piling, seasonal calendar, participatory mapping.

What went well?
- Introduction went well for all groups
- Good interaction with farmers, interactive although sometimes confused when they were not clear on the purpose of the PE tool.
- Good eye contact.
- One group did some probing into diseases.
- Advices given

What didn't go well?
- Participants didn't know what to do at the start, especially with mapping.
- All team members talked at the same time confusing the participants.
- Language – too many English words
- Wrong time for visit – funeral going on next door
- Movement control – participants getting up to get water or to smoke others arriving late.
- Seasonal calendar not well explained
- Sometime it took long time to get consensus on issues
- All groups need to do more probing
- Some groups got side tracked because of questions from participants

What will you do differently?
- Probe farmers for the symptoms of the different diseases mentioned.
- Assist with mapping to get started.
- Use checklist
- Use language that farmers are familiar with
- Put more focus on the objective of the visit.

All groups recognized that they had not met the objective of the visit.

PE tools – continued

Timeline

A timeline is a diagram of key events over a specified period of time.
Its scale can vary from 50 years or more to 1-2 years depending on the focus of the PE
It is useful for exploring the frequency of key disease events and patterns over time

Steps:

- decide on scale based on issues of interest
- ask informants to indicate key events during the timeframe – events affecting the community, major livestock and disease events.
- probe

Demonstration with whole group: can you tell me what major livestock disease outbreaks have occurred in the Botswana in the past 20 years.

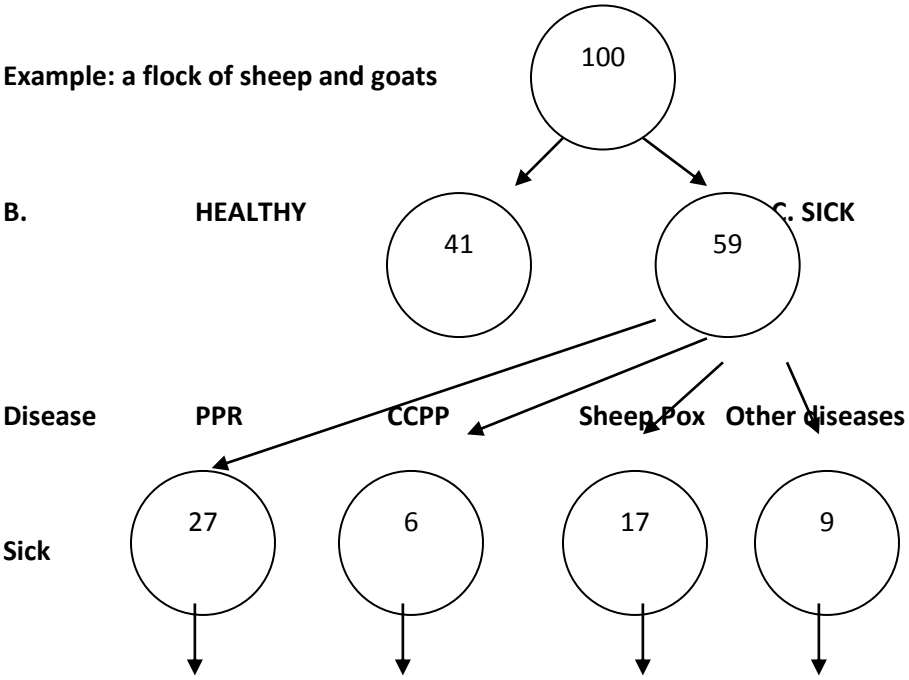
Proportional Piling to assess Morbidity and Mortality

Proportional piling can be used to demonstrate the impact of diseases on the flock, by demonstrating the percentage morbidity, flock mortality and case fatality of different diseases. You would normally use this tool later in the interview once you have discussed diseases.

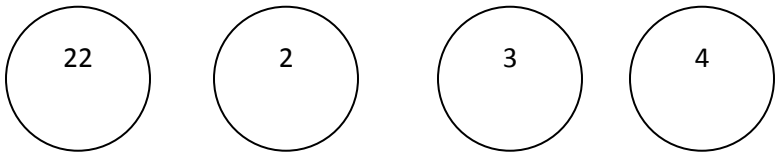
Demonstration of method:

1. Ask the farmers to tell you the main disease problems that affect their sheep and goats. Ask him which ones are the most important.
2. Take 100 beans and tell the farmers that the beans represent the cattle that he kept in the last one year.
3. Ask them to use the beans to show what proportion of the flock was healthy in the last one year and what proportion became sick.
4. Write the 3-5 most important diseases already mentioned in the interview on cards and add a card for "other diseases" under which all the other diseases mentioned will be grouped.
5. Ask the farmers to show the proportion of sheep and goats that became sick from each of the common diseases and from other diseases during the last one year.
6. For each disease that affected his herd, ask them to show the proportion of the affected cattle that died.

Example: a flock of sheep and goats



Deaths



Flock morbidity (all diseases) = 27 + 6 + 17 + 9 = 59 59/100 = 59%
Flock mortality (all diseases) = 22+2+3+4 = 31 31/100 = 31%
PPR Morbidity = 27%, flock mortality = 22%, case fatality = 22/27 = 81%
CCPP Morbidity = 6%, flock mortality = 2%, case fatality = 33.3%
Sheep Pox morbidity = 9%, flock mortality = 3%, case fatality = 18%
Other diseases morbidity = 9%, flock mortality = 4%, case fatality = 44%

Tips

- This tool is best used with a small group or an individual farmer because it is asking what they actually experienced in their own flock/herd.
- Make sure you have a category for "other diseases" to include all other diseases experienced by the flock/herd.
- It is best to use no more than 4-5 categories plus the category "other diseases"
- Use 100 counters to make the calculations easier (make sure you count them before!)

Field visit nr 2

The objective and checklist remained the same as for field practice 1. The aim of the field practice was to practice the semi-structured interview and to use some of the PE tools. Teams were encouraged to improve those parts that had been weak during the first practice. All teams went to Thabala and interacted for about 2 to 2.5 hours with the livestock keepers.

Feedback of field visit: please see Annex 5.

Field visit nr 3

The objective and checklist remained the same as for field practice 1. The aim of the field practice was to practice the semi-structured interview and to use some of the PE tools. Teams were encouraged to improve those parts that had been weak during the first practice. All teams went to Paje and interacted for about 2 to 2.5 hours with the livestock keepers.

Feedback of field visit: please see Annex 6.

PE tools – continued

Matrix scoring

Matrix scoring is essentially a series of proportional piling exercises repeated using different indicators.

Demonstration of method: explore the reasons for keeping different types of livestock species

1. What types of livestock are kept in this area? Cattle, sheep, goats, chickens, pigs, dogs, donkeys
2. Why is each of them kept? Draught power, Meat for household, Cash, Milk, Prestige, Social (dowry, witchcraft traditional healing), Eggs, Savings, Fat – these are used as indicators
3. Create a matrix with the livestock species across the top – use the five most important ones as selected by the participants.
4. Take one indicator and ask the participants to use 30 beans to show the relative importance of each species for that indicator. E.g. show me how important each species is for providing draught power?
5. Repeat with each indicator.
6. The relative scoring for each indicator shows that some species are more important for livelihoods (food, income) whilst others are more important for prestige, draught power etc. See results below.

Species/indicator	Cattle	Sheep	Goats	Chicken	Pigs
Draught power	30	-	-	-	-
Meat for household	3	5	8	13	1
Cash	9	3	3	12	3
Milk	22	-	8	-	-
Prestige	24	3	3	-	-
Social (dowry, etc)	8	4	4	14	-
Eggs	-	-	-	30	-
Savings	14	4	3	5	4
Fat	7	10	3	0	10

Tips

- Do not use more that 5-6 categories across the top of the matrix.
- Use approximately 5 beans per category e.g. for 5-6 categories use 30 beans.
- Matrix scoring on diseases and clinical signs is most useful with farmers who have a lot of knowledge and experience and can show the subtle differences between different diseases or syndromes.
- Use the names of diseases or syndromes as given by the farmer.

Data recording and analysis

How do we keep records of interview information?

- note-taker during interview
- post-interview review to capture additional information remembered but not recorded
- summarise interview information in a logical order or an interview record form if used
- prepare summary report for village or area

Analysis

When do we carry out analysis?

- during the interview by cross-checking and probing
- summarizing the interview
- summary report for the village or area
- at central level

Analysis should be a continuous process that happens throughout the interview and afterwards. Continuous cross-checking should be carried out. If necessary the checklist and tools can be updated based on information gathered during earlier interviews so that new leads can be followed and to be open to new information.

Triangulation is carried out:

- between questions and tools used with the same informants
- between questions and tools repeated with multiple informants
- between information collected from interviews and tools with laboratory diagnostics
- between PE findings and secondary information

Information should be examined for levels of agreement or disagreement.

Analysis of simple ranking and proportional piling data was explained.

Work plan for field work activities

Saskia introduced the different elements to considering when developing the work plan for the next 3 months:

- The participants will work in pairs except for the participant from Mahalapye who will work with a colleague from his area and for some interviews he will join the colleagues of Palapye.
- The teams will be expected to do at least 20 interviews.
- The teams should also consider interviewing key informants.
- Target villages where smallholders are present and/or areas where there are a lot of small ruminants.
- Also consider areas that you know have had some die off o cattle or small stock in the past years that were not properly investigated.

After that, the participants worked in teams to draw a map of their area of work and discuss the suggested work plan from their side.

Please see annex 7 for the outline of the work plans.

All participants presented their plans and comments were given for improvement.

Livestock research in Botswana

Dr Podisi presented some of the work his department is conducting. He gave an overview of research work done on breeding of beef cattle and smallstock in Botswana. The presentation touched among others on recommendations on feeds and feeding, forages and appropriate stocking rates for different agro ecological zones as well as dairy production.Participants were encouraged to invite the colleagues from the research department to their areas in case they would like to organize meetings with farmers to discuss breed improvement related issues.

Wrap up

Saskia asked the participants to have a look at the cards listing the expectations and fears. Together they discussed if the concerns and expectations had been met. Most of them had been met but a major concern remains with the possibility for the participants failing to do the required field work, since their supervisors have not been sufficiently informed or because they want them to be involved in other activities.

There was a request for the project coordination to share this concern with Dr Modisa and Dr Mbeha for them to inform the supervisors of the affected participants.

Then Saskia requested the participants to complete a training course evaluation course. See Annex 9 for the results of the questionnaire.

The training course finished at 13:00 on Saturday.

Annex 1 – Training course agenda

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08:00 - 10:00	Welcome and introduction Course objectives Expectations and fears	PE tools: semi-structured interviews and checklists	Field visit 1: SSI and some tools & feed back from field work	Field visit 2: SSI and some tools & feed back from field work	Field visit 3: SSI and some tools	Data analysis PE for outbreak investigation Outline work plan
10:00 - 10:30	Break	Break				Break
10:30 - 12:30	Surveillance system	PE tools: • Simple ranking • Proportional piling • Participatory Mapping				Development and presentation of work plans Wrap up
12:30 – 13:30	Lunch break					
14:00 - 15:15	Intro to PE	PE tool: Seasonal calendar	PE tool: Timeline	Debrief field visit	Debrief field visit	
14:45 – 15:00	Break	Break	Break	Break	Break	Break
15:00 - 16:00	Existing veterinary knowledge & case definition	Preparation for field work	PE tool: PP for morbidity and mortality Preparation for field work	Review tools Preparation for field work	Matrix scoring	

Annex 2 – List of participants

	Name	Department/Station	Tel	Email
1	Kebonyemodisa Ntesang	BNVL	71405981	kntesang@gov.bw
2	Phodiso Kebonang	DVS Palapye	75413369	
3	Ellen Ntsimane	DVS Lobatse	71687186	
4	Tsholofelo Kootshegetse	BNVL	74601428	tkootshegetse@gov.bw
5	Millan Mpofu	DVS Kasane	73639133/ 71687430	bjmpofu@gov.bw
7	Agisanyang Malgas	DVS Kasane	71204853/ 73832999	amalgas@gov.bw
8	Kago Nkgageng	DVS Letlhakane	71860556/ 73373960	knkgageng@gmail.com
9	Gabaakanye Ntsie	DVS Selebi-phikwe	71620920/ 73920620	Gbntsie@yahoo.com
10	Setshego Phokoje	DVS Lobatse	74012914	sphokoje@gov.bw
11	MB Phatsime	DVS Mahalapye	72798867/ 77007576	
12	Joseph Golekanye	DVS Serowe	76787579	jgolekanye@gov.bw
13	Olorato Tshireletso	DVS Serowe	4630960	otshireletso@gov.bw
14	Ofentse Odirile	DVS Selebiphikwe	2601890	okodirile@gov.bw
15	Kereng Sepopo	DVS Lethakane	71887438	
16	Gagoitsewe J. Pitse	DVS Thabala (Serowe)	71373363	
17	Jacob Mpaesele	DVS Selebiphikwe	71716971	Jacob.mpaesele@yahoo.com
18	Zacharia K. Mosarwana	DVS Ramotswa (Otse)	73194802	
19	Bohutsana Lerothodi	DVS Serowe	71826831	
20	Wedu Monyatsi	DVS Palapye	71701578/ 73919209	
	Others			
1	Benjamin Ditsele	DVS Serowe		bditsele@gov.bw
2	Bernard Mbeha	DVS - Gaborone	71487035	bmbeha@gov.bw
3	Baitsi Podisi	Agricultural Research Centre at Sebele	75509755	bpodisi@gov.bw
4	Evan Sergeant	AUSVET		evan@ausvet.com.au
5	Sirak Bahta	ILRI - Botswana		s.bahta@cgiar.org
6	Saskia Hendrickx	ILRI - Mozambique		s.hendrickx@cgiar.org

Annex 3 – Expectations and fears

Expectations	Fears
Well vested with theory and practical understanding of workshop concept (3)	Interaction with stakeholders during this time of the season, busy with other activities: ploughing
Learn new things (2X)	Participate in the next training as there is no guarantee that I will be selected for the next phase (2X)
To be fully equipped with new skills.	No protective clothing (2X)
Bettering expertise on field work.	Researchers collect our information and use it against our economy
Improve FMD situation in red zones.	Disease knowledge of the facilitators is not adequate
Expecting this workshop to assist small holder to produce better (2X)	Foreigners doing research in Botswana – no confidence in local institutions?
Upgrade participants to assist in production.	Local (NVL, AG Research, farmers) involvement in the project is low
To be able to identify and categorize smallholder farmers	Too much work load
To be able to design a questionnaire to capture all relevant information for s/h farmers	Not be able to deliver due to other commitments
Be able to interpret field data collected and make informed decisions.	Too many expectations in short period
Improve data collection and analysis (2X).	Lack of manpower for research
Improved sustainable livelihoods amongst s/h livestock keepers.	Fear of dozing if bored due to low participation morale
The workshop to be fulfilling.	Fear of communication breakdown due to unfamiliar accents.
Workshop will be empowering officers.	Lack of continuity of the workshops/project (2X)
Increase offtake and standards of living.	Too much theory
Gain knowledge and improve sampling skills (2X)	
Build capacity in animal health disease surveillance.	
Change from admin work to technical work.	
Having fun.	
Would like to have seen animal prod department involved in production diseases.	
The course to be market oriented.	
Improve level of communication and understanding.	
To improve my level of understanding in livestock smallholder management (2X)	

Annex 4 – Questionnaire results

Nr	Name	1. Training in Epidemiology or surveillance	2. Experience of disease surveillance	3. Training in participatory approaches	4. Use of participatory approaches in the field	5. Trained others in participatory approaches
1	Agisanyang Malgas	No	Yes, monitoring and visual inspection, clinical case investigation	No	No	No
2	Bohutsana Weruzhodi	No	FMD surveillance	No	No	No
3	Ellen Ntsimane	No	FMD and LSD surveillance	No	No	No
4	Gabaakanye Ntsie	At BCA, only training, 2 years for animal health and production.	FMD surveillance: monitoring inspection & sero sampling	No	No	No
5	Gagoitsewe J. Pitse	No	FMD surveillance	No	No	No
6	Jacob Mpaesele	At BCA, only training, 2 years for animal health and production.	FMD surveillance: -blood collection -visual inspection -Monitoring	No	No	No
7	Joseph Golekanye	No	FMD and TB surveillance	No	No	No
8	Kago Nkgageng	Oct2010-March2011: Lobatse Meat Inspection Training Centre: meat inspection course included epidemiology	Yes, meat inspection duties	No	No	No
9	Kereng Sepopo	At BCA, only training, 2 years for animal health and production.	FMD surveillance, BSE surveillance and others eg. Anthrax, Q.E.	No	No	No
10	MB Phatsime	Only at BCA	FMD surveillance: -Passive surveillance -Residue sampling	No	No	No

11	Millan Mpofu	No	Disease surveillance, ante mortem inspection	No	No	No
12	Monyatsi MW	Only at BCA	FMD surveillance & residue sampling	No	No	No
13	Ntesang Kebonyemodisa	No formal training, but from internet and scientific articles.	Tick and Tickborne diseases project in Chobe district; Dourine Surveillance Botswana	No	No	No
14	Ofentse Odirile	No	FMD surveillance	No	No	No
15	Olorato Tshindotso	Yes, 1 wk in Oct 2012 in Kasane – Syndrome based clinical case approach	FMD surveillance (serology)	No	No	No
16	Phodiso Kebonang	Only sampling at CICE early 2000	FMD and CBPP surveillance	No	No	No
17	Setshego Phokoje	As part of veterinary Medicine training only.	Passive surveillance: Visual inspection of LSD, mange etc Active surveillance: serosampling for FMD; lab samples for specific diseases: e.g. RVF			
18	Tsholopelo Kwetshegetse	Only at BCA	No	No	No	No
19	Zacharia K. Mosarwana	No	FMD surveillance	No	No	No

Annex 5 – Feedback field visit 2

	Group1	Group2	Group3	Group4
Interviewer	M. Phatsime	J. Mpaesele	Ntesang	Mosarwana
Note taker	K. Nkgageng	J. Golekanye	Sepopo,Ntsie	Ellen and Wedu
Observers	Phokoje, Pitse, Malgas	Lerothodi P. Kebonang	Dr Tshireletso Kootshegetse	Odirile and Mpofu
Participants M vs F	5M 1F	5M 1F	4M 2F	4M 1F
Livestock spp in village? Tool used?	SR and PP Cattle 36 Goats 25 Donkey 15 Chickens 12 Sheep 7 Pigs 5	PP Cattle 41 Goats 16 Sheep 15 Dogs 11 Chickens 9 Donkey 8	SR Cattle Goats Sheep Donkey Chicken Pigs	No tool – "verbal SR" Cattle Goats Sheep Chickens Donkeys Horses
Most common diseases cattle?	HV SV Pasteurelosis 24 35 Botulism 6 22 Black quarter 27 21 LSD 7 9 *NOTE: Diseases missing – sum should be 100*	Black quarter LSD Mokomalo Magekia	Pasteurelosis 22 Black quarter 14 Aphosphorosis 10 LSD 13 Dithagala 16 Go Swa Mabele 7 Go Salela Ga Mothana 8 Thakwana 7	Pasteurelosis Black quarter Anthrax Aphosphorosis Dithagala Bolwetsi jwa Mabele
Most common diseases sheep/goats?	Pasteurelosis Abortion Abcesses ("verbal ranking")	Diphilo Dibokwana Tlhkwana	Thakwana 7 Pasteurelosis 27 Dibokwana 17 Dithagala Go Swa Mabele (mastitis) 18 Go Salela Ga Mothana (retained placenta)	Madi Metsi a pelo Dibokwana Matsetse
Seasonality of dz? Either for cattle or goats	See picture of seasonal calendar below.			
Other interesting information	There were farmers from the sandveld and hardveld with different views on disease occurrence.	At the start, the interviewer read the checklist out loud which created confusion by respondents	Ram is reported to be mating goats. Confusion between anthrax and pasteurella – they use the local word Kwatsi instead of Madi. Cow reported to be always in heat, all year long.	Confusion between anthrax and pasteurella – they use the local word Kwatsi instead of Madi. Language interview was sometimes rude, getting impatient.

Annex 6 – Feedback field visit 3

Group 1

Interviewer	Ntsimane and Ntesang
Note taker	Mosarwana
Observers	Phokoje and Tsholofelo
Participants	3M and 5F
Tools used:	SR, PP, SC, Mapping

Animal species kept using PP:

Cattle	60
Goats	18
Donkey	19
Poultry	15
Sheep	3

Animal husbandry practices: Most practice free range grazing, they do vaccinate and dipping. Watering from wells, they have kraals and loading facilities for markets (BMC, Millers) deworming.

Challenges:

High mortality of small stock – leading to decrease of population

High worm burdens in small stock – mortality resulting in economic losses.

Poor markets (due to closure of BMC)

LAC poorly stocked with necessary drugs

Diseases:

Cattle		Sheep/goats	
Pasteurella	48	Footrot	35
Black quarter	28	Ditlhagala	22
LSD	13	Worms	22
Cont Abortion	8	Heartwater	17
Worms	3	Pasteurella	7

What do they do when they have these diseases?

Report to Veterinarian

Treat themselves: sulphur; terramycine and traditional beer against LSD.

Deworming with ectomectin

Confusion between anthrax (kwatsi) and Pasteurella (Madi).

Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	7	3	3	1					0		4	5
ST/Footrot	10	9 6										6

ST/Dithagala	8	6	3									13
ST/Worms	8	7	3	2	1 1	1			1			5
Cattle/B.Q.	5	7	2	1						7	6	5
Cattle/Past								5	5	7	7	6
Cattle/LSD	7	7	7									9

Questions and advice

Explained difference between anthrax and pasteurella

Adviced to vaccinate prior to disease occurrence

Not to eat animals that died from sickness

Vaccinate for pulpy kidney before deworming smallstock.

What went well?

- Introduction and purpose of the visit clear
- Presentation
- Participation by DVS team good
- Understandable language
- Eye contact and posture

What went wrong?

- Lack of participation from members of community
- Miscommunication between interviewers
- Too much pausing
- Too much time spent on one species (cattle)

Do differently: follow check list and prepare better.

Group 2

Interviewer	Pitse and Lerothodi
Note taker	Dr Golekane
Observers	Dr Tshireletso
Participants	4M and 4F
Tools used:	SR, PP, SC, Mapping

Animal species kept using SR and PP:

Cattle

Goats,

Sheep

Horses

Donkeys

Chicken

Cattle	33
Goats	21
Poultry	19
Donkey	15

Animal husbandry practices: Most practice free range grazing, they do vaccinate and dipping. Use a borehole for watering and some of them give supplemental feeding.

Challenges: diseases, access to markets, transport, medicine and feed prices.

Diseases:

Cattle Sheep/goats

Ticks	23	Worms	35
Abortion	20	Heartwater	24
Heartwater	17	Ticks	19
Worms	16	Pasteurella	14
LSD	12	Abortion	7

What do they do when they have these diseases?

For heart water and Pasteurellosis and black quarter they treat with oxytetracycline

Dipping against the ticks and lice

Bleeding of the ears by Pasteurella.

Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	5	5	3						2	6	6	3
Serotswana								21	3	3	3	
Dibokwama						5	8	8	9			
Madi	9	9	5								4	5

Questions and advice

Kids dying a few weeks after birth showing paddling movements – Signs point towards heart water.

Efficacy of dips against ticks seems variable – use recommended doses to get desired results

The seasonal calendar will help you to better understand when disease happens to prevent and control them.

What went well?

- Full participation
- Good introduction
- Tools well explained and understood
- Open questions

What went wrong?

- We should have left the counters on the seasonal calendar
- No discussion among the team members before interview of checklist and tools – this resulted in the transitions no flow well.
- Probing not sufficient.
- Interviewer answering own questions.

Do differently: follow check list and discuss tools before the interview.

Group 3

Interviewer	Ntsie and Malgas
Note taker	Mpofu
Observers	Mpaesele and Odirile
Participants	4M and 4F
Tools used:	SR, PP, SC

Animal species kept using SR and PP:

Cattle	42
Goats	33
Sheep	22
Poultry	2

Animal husbandry practices: no mapping done.

Challenges:

Diseases of small stock

LAC poorly stocked with necessary drugs

Veterinary assistance limited

Veterinary knowledge of drugs and vaccinations limited.

Diseases:

Cattle

Cont Abortion	46
LSD	31
Elephant ski	12
Eye infection	11

Sheep/goats

Worms	28
Footrot	52
Cont Abortion	20
Eye infection	0

Chickens

Lice	51
NCD	37
Eye infection	12

What do they do when they have these diseases?

Dibokwana: Traditional herbs (sebete, moralale, mojapoo, mhata). Others didn't do anything: had lost hope on drugs.

Nkokomane: Vaccinate in response to outbreak

Lice: ash

Footrot: put paraffin

Mokorobalo: do nothing

Bofofu: sugar in the eye or eye powder

Seasonal calendar: done but results are questionable due to very limited knowledge on other diseases apart from poultry diseases.

Questions and advice: well done (no details given)

What went well?

- Introduction and content well done
- Good team work
- Good probing

What went wrong?

- Lack of participation from members of community
- Dominant speaker
- Fear for participation
- Participants (except 1) had only chickens!

Do differently: ensure you have the right group of participants.

Group 4

Interviewer	Kebonang and Nkgageng
Note taker	Sepopo
Observers	Phatsime and Monyatsi
Participants	6M and 2F
Tools used:	SR, PP, SC, Mapping

Animal species kept using PP:

Cattle	35
Goats	24
Poultry	19
Donkey	17
Sheep	5

Animal husbandry practices: Most practice free range grazing, they do vaccinate and dipping. Watering though wells.

Challenges:

Lack of consultation,
Bovine "measles" – cysticercosis which results in condemnation of carcasses.
Lack of markets,
Late vaccination,
Expensive drugs and vaccine.

Diseases:

Cattle

Black quarter	23
Pasteurelosis	20

LSD	17
Cont Abortion	17
Calf paratyphoid	10
Mastitis	7
Heartwater	7

What do they do when they have these diseases?

Based on the diseases discussed at calendar.

Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	4	2				1	2	3	4	4	5	5
Calf parathyphoid	6	3	1						10		5	5
Pasteurella	3	2	1					6	6	4	4	4
Black quarter	3	4	2	1				2	8	4	3	3

Questions and advice

What went well?

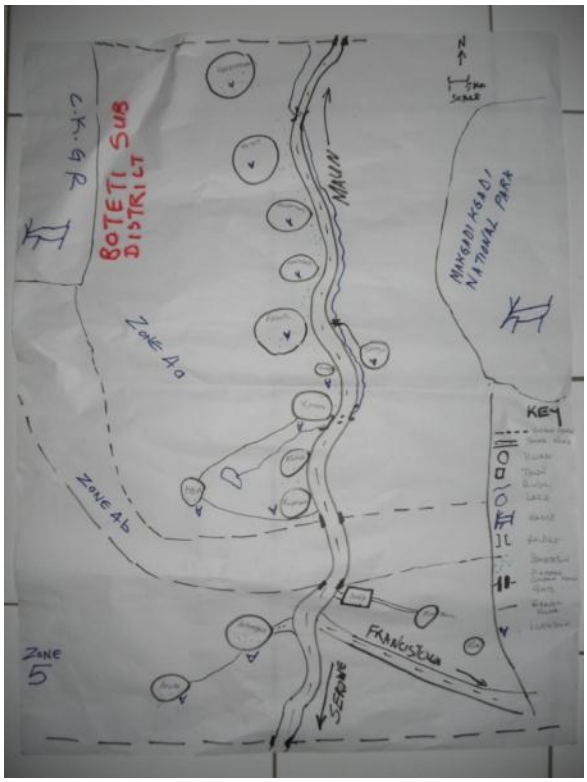
- Presentation went well
- Eye contact - Full participation
- Good introduction – good.
- Language (understood).

What went wrong?

- One participant left.
- Strong winds
- Using table which was a barrier
- Tea break for Ipelegeng
- Cellphones.

Do differently: follow check list and discuss tools before the interview. Gender balance for the participants

Annex 7 – Work plans



Boteti sub district

Team members: Kago Nkgageng and Kereng Sepopo

Interviews will be conducted in the villages of the subdistrict (from north to south):

1. Makalamabedi
2. Motopi
3. Moreomaoto
4. Khumaga
5. Rakops
6. Toromoja (at the other side of the river
7. Mmadikola
8. Xhumu
9. Mopipi
10. Mokoboxane
11. Kedia
12. Lethakane
13. Khwee
14. Orapa
15. Mmatshumo
16. Mosu

More than 1 interview will be conducted in the larger villages e.g. Letlhakane.

Key informants that will be interviewed are: butchers, district veterinary officer.

Planning:

- Estimated start date: end of January 2013
- Estimated end date: end of March – Mid March 2013

Palapye subdistrict

Team members: Mrs Phodiso Kebonang and Mr Wedu Monyatsi

There are 18 extension areas in which we plan to do interviews.

We will also go and interview staff (managers and herds men) from the commercial farms.

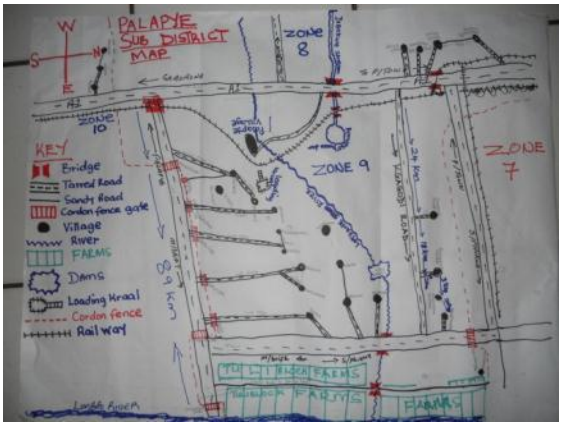
We will also work for some interviews with the colleague from Mahalapye.

If time allows we would also like to go to 2 poultry farms in the area to find out some of the issues they may be facing.

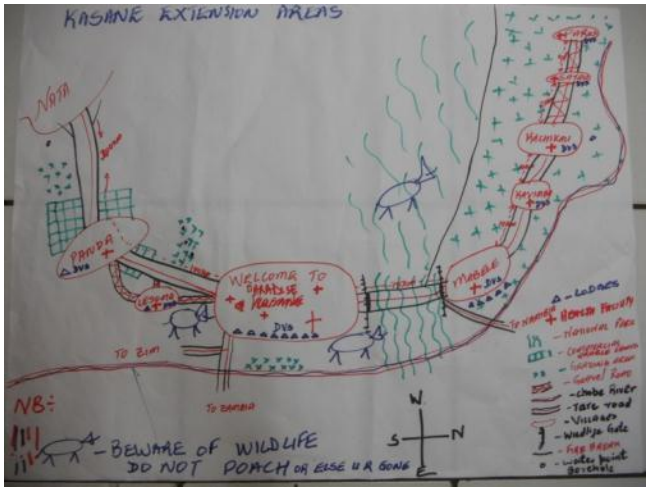
Plan to do 2 interviews per week.

Planning:

- Estimated start date: 07/01/2013



- Estimated end date: 15/03/2013



Kasane subdistrict

Team members: Agisanyang Malgas and Millan Mpofu

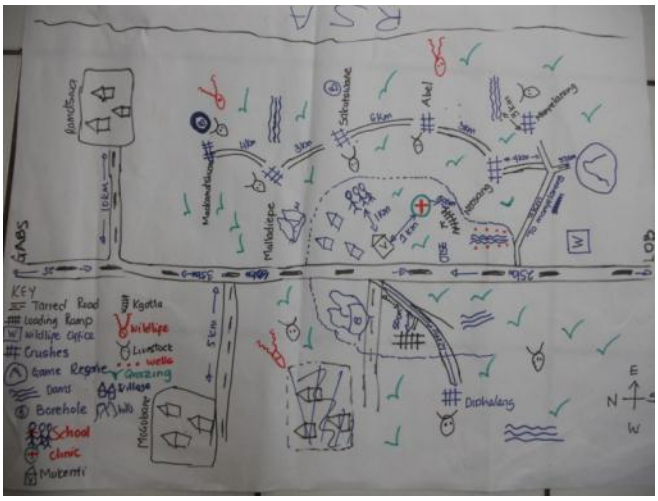
There are 7 extension areas and we propose conducting various interviews in the 7 areas. We will start in Parus and end in Panda.
Planning:

- Estimated start date: 01/12/2012
- Estimated end date: 28/02/2013

We have other campaigns starting in March.

South East district

Team members: Ellen Ntsimane, Setshego Phokoje and Zacharia K. Mosarwana



We won't work in Lobatse because there are only commercial farmers, the smallholders are located in Mogobane (6 interviews) Otse (6 interviews), Ramotswa (8 interviews)
Planning:

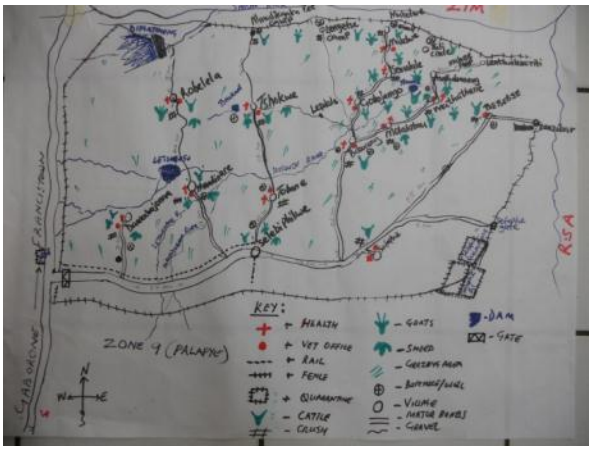
- Estimated start date: 01/02/2013
- Estimated end date: 30/04/2013

Selebi-Phikwe sub district

Team members: Jacob Mpaesele, Gabaakanye Ntsie and Ofentse Odirile

The following villages will be visited:

Bobonong	2 cattle and 1 small stock
Mmadinare	1 cattle and 1 small stock
Gobajango	1 small stock
Semolale	1 small stock
Mabolwe	1 small stock
Tsetsebye	1 cattle and 1 small stock
Mathathane	1 cattle
Motlhabaneng	1 small stock



Lentswelemoriti	1 small stock
Tshokwe	1 cattle
Robelela	1 cattle
Damchojenaa	1 cattle
Selebi Phikwe	1 cattle
Tobane	1 cattle
Sefophe	1 cattle and 1 small stock
Lepokolole	1 cattle
Molalatua	1 small stock

Key informants that will be interviewed:
Veterinary officers
LIMID officers (LIMID is a government project that promotes rearing of small ruminants among resource poor families).
Village leaders

- We would also want to review the available laboratory information for our work area.

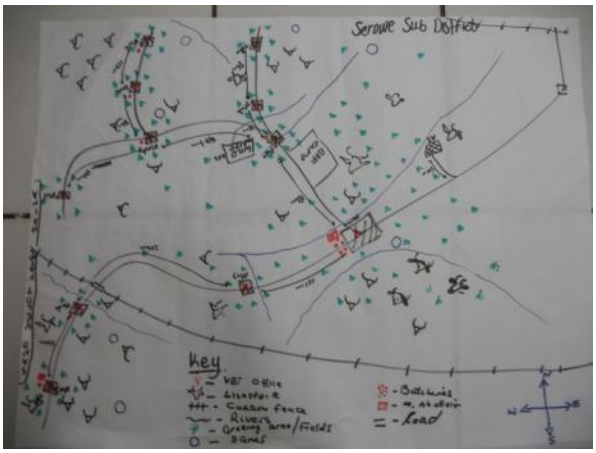
Planning:

- Estimated start date: 21/01/2013
- Estimated end date:28/02/2013

1 month (March) for preparing the report.

Serowe subdistrict

Team members: Bohutsana Lerothodi, Gagoitsewe J. Pitse, Joseph Golekanye and Olorato Tshireletso



We will conduct interviews in the villages since they all have a mix of cattle and small ruminants. In some of the villages (Mogorosi, Thabala…) where we did the interviews as part of the PE training course we will go to some of the cattle posts to interview the staff there.

Planning:

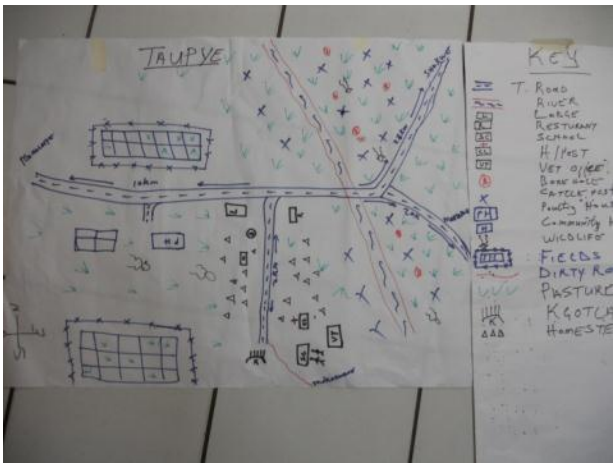
- Estimated start date: 15/01/2013

- Estimated end date: 15/03/2013

There are a number of activities (e.g. ear marking/boluses) that may compromise the field work.
In addition, the veterinarians (Joseph Golekanye and Olorato Tshireletso) are concerned that they may not be able to do that many interviews as the extension officers due to other commitment.

Taupye extension area (Mahalapye subdistrict)

MB Phatsime



There are 16 extension areas in the sub-district and I will visit them to conduct interviews there. I will also work for some interviews with the colleagues from Palapye. Perhaps 5 interviews we could do together.

Planning:

- Estimated start date: 15/01/2013
- Estimated end date: 15/03/2013

ANNEX 8 – Mood meter – daily evaluation chart

Day one: 19/11/2012 (19 participants – 1 person didn't complete)

Mood	Score	Comments
	15	Theory in the morning and interaction after lunch It went well Satisfied, more interaction Less theory, participatory learning good Ok, problem was the heat after lunch More interaction needed Keep laughing Good Enjoyable
	3	Fair Lessons where we participate
		

Day two: 20/11/2012 – 1 participant had to leave (18 in total)

	18	Interactive (2X) Satisfactory Good Marvellous Excellent, keep it up No sleeping today. Enjoying. Exceptional Exciting I like food
		
		

Day three: 21/11/2012 – only 11 respondents

	8	Best Better than excellent Interactive
	3	A little bit tired but still happy A bit tired
		

Day six: 24/11/2012

ANNEX 9 – Training course evaluation

A. General Assessment	In general, I would rate the workshop as: ☐ Excellent **37%** ☐ Very Good **42%** ☐ Good **16%** ☐ Poor ☐ Very Poor

B. How would you rate this workshop in meeting your expectations?

☐ Partially ☐ Fully **89%** ☐ Exceeded **11%**

Please explain (if the workshop did not fully meet your expectations only)

C. Strengths and Weaknesses

Please list what you consider to be three strengths of the workshop.

1.

- time well managed (2X)
- good participation (2X)
- visual aids(2X)
- field visits - primary data collection (2X)
- organization, materials
- new skills for planning future disease investigation
- resource person fully vested with the workshop content
- interactive
- good interaction with stakeholders
- tools used very important
- objectives were met
- improve good data collection and analysis
- involvement of stakeholders for participation
- equip officers with techniques in identifying farmers' problems
- the facilitator was very active

2.

- delivery: visual aids, simulation exercises
- interaction with different colleagues
- good timing (4X)
- tools used were very good(2X)
- practicals
- workshop material availed
- workshop well planned by the facilitator
- involvement of stakeholders
- contents very good
- field visits - data collection
- ...farmers make corrections where it is due
- able to appreciate the challenges faced by the small holder farmers and their understanding of diseases
- Able to know the challenges of the community and developing good ideas to help them better
- good explanation of points
- involvement of other departments like animal health and production

3.

- informative (2X)
- participants accommodation in one area (2X)
- field practice
- farmers are able to mention some of their problems related to other issues such as marketing
- revision time need to be given priority
- use of PE tools (more informative)
- well researched presentation
- revision of what worked
- Farmers were resourced to improve their lives - participants to improve the presentation
- involvement of key informants
- communication skills/ easy to interact with
- able to know challenges faced by farmers around the region
- uses tools to clarify issues which were not clear to the farmers
- clarity on approaching different situation pertaining animal health
- good points (eye opening)

Please list what you consider to be three weaknesses of the workshop.

1.

- timing: done at the end of the year (3X)
- congested agenda - too much taking into account that we are from the field (3X)
- the resource person needs translator (2X)
- short notice for farmers to attend meetings (2X)
- Presence of the director
- unequal (unbalanced) participants (some stations had 4, others 2 or 1) (2X)
- less interaction with farmers
- illiterate farmers during field visits
- add more field work
- farmer understanding of diseases
- local understanding

2.

- duration of course not clear (2X)
- short notice for farmers to attend meetings
- recognition by supervisors and directors
- other departments like Animal Production were not involved in the workshop
- the workshop venue was too small
- unequal representation of district vets
- reducing number of officers from other sub-districts
- need to be provided with US$
- weekend participation low
- participation from farmers/stakeholders very weak
- short notice for farmers to attend meetings
- supervisors need to be present

3.

- lack of clarity on the workshop before arrival.
- workshop timing not clearly defined
- done when farmers are engaged during ploughing
- extension agent transport
- our elders (deputy director) not invited to appreciate the importance of the workshop
- level of understanding e.g. doctors, technicians and artisans in one class
- long hours in theory

- low participation during visits

D. Features **VG = 4** **G = 3** **F= 2** **P = 1**		Very good	Good	Fair	Poor
	Accommodation **3.5**				
	Meals **3.2**				
	Lectures/presentations **3.8**				
	Discussions **3.7**				
	Papers/Handouts **3.6**				
	Organization and Management **3.5**				
	Quality of visual aids **3.3**				
	Quantity of visual aids **3.4**				

E. Any additional Topics	• Marketing(3X) • Government funded project for poverty eradication • Zoonotic and tropical diseases of our neighboring countries • It was an unique training, will need time to assess • Refresher course on important animal diseases
F. Topics to be eliminated	

H. How useful is this training for your day to day work? On a scale of one to five (1=not useful; 5=very useful) Please rate the usefulness. **4.3**

I. Will you be able to train others in what you learnt.

□ Yes **100%** □ No □ I am not sure

J. Would you recommend this workshop to your colleagues?

Yes □ **100%** No □ Please explain

K. Any further comments?

- different timing of the workshop (earlier in the year)
- I have acquired knowledge especially for disease investigation
- participants should be allowed to teach/train the rest of the remaining staff about the PE tools
- include animal production officers or take all stakeholders on board.
- consider targeting cadres separately.
- keep on visiting us, do refresher courses.
- Head of station to be well informed on the assignment given to do at our extension area.
- training should be considered for development (opportunities)
- there is need for video camera for the interviews
- viva workshop viva
- workshop skills will help in the field work/
- continue training extension officers this is very useful on their day to day activities
- it will improve the work of the extension workers: they will be able to know diseases occurring in the area; farmers will be able to know seasonal diseases and the ill better understand the vaccination programme.

Thank You very much for your valuable input.